

ENVIRONMENTAL ASSESSMENT
PEST FURBEARER MANAGEMENT PLAN

at the

Wallkill River National Wildlife Refuge
Sussex County, NJ, and Orange County, NY

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I. Purpose

The purpose of this environmental assessment (EA) is to discuss and evaluate the environmental impacts of establishing an annual trapping program as a part of an integrated pest management plan at the Wallkill River National Wildlife Refuge (Refuge) in Sussex County, New Jersey, and Orange County, New York. This EA provides and evaluates three alternatives being considered to direct furbearer management on the Refuge.

II. Proposed Action

The Refuge proposes to implement an annual furbearer trapping program in support of an integrated pest management strategy. Within the trapping program, the Refuge proposes to allow trapping of furbearers on the Refuge by issuing Special Use Permits. Trapping would occur in accordance with the State of New Jersey trapping regulations or the State of New York trapping regulations (depending on trap area), National Wildlife Refuge System regulations contained in Title 50 of the Code of Federal Regulations, and special conditions described within issued Special Use Permits.

III. Need for Action

Trapping is an important and effective tool in managing furbearer activity and populations, reducing habitat impacts and furbearer disease, reducing negative impacts on important wildlife, and protecting infrastructure, including dikes, culverts, and water control structures (Organ et al. 2001). According to the Refuge's Comprehensive Conservation Plan (CCP), approved 2009, "Beavers have caused flooding on neighboring properties, and muskrats have burrowed into the dikes at Liberty Marsh, threatening to compromise the water control system there." In addition, groundhogs and other furbearers could potentially cause damage to infrastructure, and beavers have caused detrimental flooding in the Refuge's Atlantic white cedar bog, an ecosystem which, according to the Nature Conservancy, is globally endangered. Raccoons and skunks have been known to prey on turtle nests (Marchand and Litvaitis, 2004), and could potentially negatively affect the Refuge's population of wood turtles (state threatened in New Jersey) and bog turtles (federally threatened).

The need for an annual trapping program is described in Refuge Management Objectives: Overabundant Wildlife, identified in the CCP (Section 4, pp. 4):

Our objective for controlling nuisance wildlife is to develop, within 3 years of CCP approval, an integrated Animal Population Management Plan for Service-owned land within the current and expanded refuge boundaries to ensure nuisance wildlife populations stay at levels that do not threaten the viability of federal trust species or other species of special management concern. We will use the following strategies to accomplish that objective.

0–5 years after CCP approval:

- Manage beaver and muskrat populations, as needed, at the Liberty Marsh property through trapping.
- Use non-lethal means of addressing beaver impacts, to the extent practicable, in areas where they are flooding adjacent landowners or affecting sensitive refuge habitats. Remove problem animals through lethal means when necessary. Trapping will occur only to accomplish specific management objectives.
- Expand furbearer management program on refuge land, as needed, where sensitive refuge habitats, such as impoundment structures, are impacted.
- If the refuge staff observes signs of predation by fox, coyote or other predators on bird or reptile nests, we will consult scientific literature and subject experts to determine an acceptable level of predation. If predation on those nests rises above identified threshold levels, then the refuge will manage predator populations using legal methods that have proven effective. Those may include trapping and shooting

Within 5–10 years of CCP approval:

- Develop an integrated Animal Population Management Plan.

Furbearer Management to Protect Trust Resources was deemed a compatible use of the refuge within the CCP (Appendix V).

IV. Background

National Wildlife Refuge System

The Wallkill River National Wildlife Refuge is part of the National Wildlife Refuge System (System). The System is the world's largest collection of lands and waters set aside specifically for conserving wildlife and protecting ecosystems. Today, that national network of more than 550 national wildlife refuges encompasses more than 150 million acres in every state and several island territories. Each year, more than 40 million visitors hunt, fish, observe and photograph wildlife, or participate in environmental education or interpretation on refuges. The System is administered by the U.S. Fish and Wildlife Service, an agency within the Department of the Interior. The Service's primary responsibilities are for migratory birds, endangered species, freshwater and anadromous fish, and certain marine mammals.

The National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57) established wildlife conservation as the fundamental mission of the System. The mission of the Refuge System is: "To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans." (Refuge Improvement Act; Public Law 105-57)

Location of the Wallkill River National Wildlife Refuge

The Refuge is located approximately 60 miles northwest of New York City, in northeastern Sussex County, N.J., and southern Orange County, N.Y. Refuge headquarters is in Vernon Township, New Jersey, and the refuge encompasses 1839 acres in Wantage Township, 3089 acres in Vernon Township, 282 acres in Hardyston, 80 acres in Frankford (all NJ); and 315 acres in Warwick, NY.

History and Purpose of the Refuge

The Wallkill River National Wildlife Refuge was established by Congress in 1990 with a 7,500-acre acquisition boundary stretching from Sussex County, New Jersey in the south to Orange County, New York in the north. In 2009, the Refuge's CCP expanded the acquisition boundary to a new total of 17,050 acres.

The Wallkill River National Wildlife Refuge promotes the environmental health and works to strengthen the biological diversity of associated habitats within the Wallkill Valley. Through active management, the refuge protects and conserves wetland-dependent species, especially the federally listed bog turtle. We also support protection for state-listed species, migratory birds and regionally rare plant communities. Local communities realize quality of life benefits as residents and visitors enjoy the refuge's natural beauty and biological diversity. Visitors engage in a variety of wildlife-dependent activities including hunting, fishing, wildlife observation and photography, and environmental education and interpretation. Through these programs, we share the ecological significance of the Wallkill River Valley and the refuge's links with other natural areas.

The refuge protects a combination of wetland and upland habitats supporting migratory birds, federal- and state-listed species, and regionally significant wildlife and plant communities in the Wallkill River watershed. The Refuge is nestled in the Kittatinny Valley in northwestern New Jersey, between the Kittatinny Shawangunk Ridges to the west and the Hudson Highlands to the east. This valley consists of headwater wetland complexes of riverine habitats, ponds, emergent marshes, fens, scrub-shrub wetlands, wooded swamps, mixed hardwood upland forests, grasslands and farmlands.

V. Alternatives

Three alternatives were identified during the planning process:

- A. Alternative 1. Establish an annual trapping program to allow trapping of all furbearers in accordance with New Jersey/New York state regulations as part of an integrated furbearer management program.**
- B. Alternative 2. (Proposed Action) Establish a trapping program directed toward pest furbearers as part of an integrated pest management program.**
- C. Alternative 3. (No Action/Status Quo) No trapping program.**

These alternatives reflect various management scenarios that were developed based on: existing State and Federal regulations, Service policies, purposes established for the Refuge, existing wildlife populations and habitats, and principles of wildlife ecology and management.

VI. Affected Environment

A. Physical Resources

Climate

The average temperature of the area is approximately 48 degrees Fahrenheit, with high temperatures in July around 85 degrees and low temperatures in January around 15 degrees. Average annual precipitation measures between 43 and 47 inches (Office of the New Jersey State Climatologist 2011).

Geology

The Wallkill River Watershed was formed at the end of the Pleistocene Epoch, during the last glaciation event. Melting water from retreating ice sheets formed massive glacial lakes. Their bottoms received extensive deposits of organic matter that is the source of the region's fertile "black dirt." (U.S. Fish & Wildlife Service 1997)

The Wallkill River refuge lies in the Upper Wallkill River Valley Habitat Complex. A 1997 report, "Significant habitats and habitat complexes of the New York Bight watershed," by the Southern New England - New York Bight Coastal Ecosystems Program, describes that habitat complex as being in a rolling valley in the Appalachian Ridge and Valley physiographic province between the Kittatinny Ridge to the west and the Hudson Highlands to the east. That valley is part of the Great Valley, which extends from Canada to the southern United States. Elevations in the complex range from sea level to 200 meters (650 feet) above sea level. Limestone, dolomites, and shales underlie the valley. Metamorphic, crystalline rocks such as gneisses and schists compose the Highlands. The Kittatinny Ridge is composed of sandstones and conglomerates. The terminal moraine of the Wisconsin glacier crosses the valley well south of the habitat area near the Delaware River. A recessional moraine crosses the valley just south of the habitat complex from Ogdensburg west to Culvers Gap. Glacial lake sediments underlie the major wetlands in the complex, including the Wallkill River bottomlands and the upper Wallkill River between the Highlands and Pimple Hills, Papakating Creek, Crooked Swamp, and Wildcat Brook (U.S. Fish & Wildlife Service 1997).

Soils

The Wallkill River Valley, previously a mix of wetland types, was cleared and drained during the past century. The valley's fertile Carlisle muck soils were highly desirable for farming. Before that drainage, diverse wetlands supported many nesting and wintering waterfowl. Soil maps from the Sussex County Soil Conservation District and Planning Board indicate that "prime farm land" soils, specifically Washington, Wooster, and Riverhead loams, are scattered throughout the refuge. Unique soils include Carlisle muck and Wallkill silt loam, both very

productive, which cover large areas in the refuge boundary.

Lakes and streams

The current Refuge boundary straddles a 9-mile stretch of the Wallkill River. The Papakating Creek is a major tributary which flows into the Wallkill approximately 0.6 miles west of Refuge Headquarters, or 2.5 miles north of the refuge's southernmost boundary. The acquisition boundary approved in 2009 encompasses a large portion of the Papakating Creek Watershed.

Refuge infrastructure

The land that now makes up the refuge was largely in agriculture before being incorporated into the refuge. Dairy farming and row crops were the principle means of farming. Due to the linear nature of the refuge, there are several miles of paved roads running south to north and crisscrossing east to west around and through the refuge with 3 bridges crossing the Wallkill River along these public roads. As a holdover from the farming days, there are numerous farm and tractor roads throughout the refuge. Some of these have been incorporated into a trail system; the 3.7-mile Dagmar Dale Nature Trail and others are maintained as service roads for refuge staff use. Two abandoned rail beds transect the refuge. The former Lehigh-New England railroad bed runs almost the entire length of the refuge, from Sussex Borough north to the State of New York. Part of that abandoned rail bed constitutes the 2.5 mile Liberty Loop Nature Trail and the 0.8 miles Timberdoodle Trail. The former rail bed of the Hanford Branch of the New York, Susquehanna and Western Railroad runs along the southernmost two miles of the refuge and constitutes the 1.5 mile Wood Duck Nature Trail. The refuge owns portions of both former rail beds. There are three properties that contain dwellings that are maintained as refuge housing, and many private residences and active farms still exist within the original acquisition boundary. The headquarters complex consists of the main office building, which is a restored farm house, a former milk shed that is now the maintenance work shop, an old pole barn used for equipment storage and a new pole barn used for vehicle and equipment storage.

B. Biological Resources

Vegetation

The Refuge lies in the Appalachian Ridge and Valley Province between the Kittatinny Ridge to the west and the Hudson Highlands to the east. The fact that the refuge lies along a riparian corridor dictates its vegetation. A typical riparian corridor consists of a mosaic of wet meadows, mixed bottomland hardwood forests and higher elevation wetland types surrounded by smaller tributaries of the Wallkill River. Additionally, there are segments of upland forests above the riparian corridor on the eastern ridge of the valley.

The riparian forest is dominated by red and silver maple (*Acer rubrum* and *A. saccharinum*), pin oak (*Quercus palustris*), green ash (*Fraxinus pennsylvanica*), slippery elm (*Ulmus rubra*), black willow (*Salix nigra*) and river birch (*Betula nigra*). The dominant understory species are spicebush (*Lindera benzoin*), silky dogwood (*Cornus amomum*) and gray dogwood (*C. racemosa*). Upland forests are typically dominated by sugar maple (*A. saccharum*), red, chestnut and white oak (*Q. rubra*, *Q. prinus*, *Q. alba*), sweet birch (*B. lenta*), shagbark and pignut hickory (*Carya ovata*, *C. glabra*), with an understory of witch hazel (*Hamamelis virginiana*) and maple leaf viburnum (*Viburnum acerifolium*). Eastern hemlock (*Tsuga canadensis*) occurs in isolated locations. A small Atlantic white cedar (*Chamaecyparis thyoides*) bog, considered a globally endangered ecosystem, can also be found here.

Other wetland habitats are dominated by sedges (*Carex spp.*), rushes (*Juncus spp.*), and smartweeds (*Polygonum spp.*). There are also tracts of grasslands which contain a mix of native and non-native species. Native species include big bluestem (*Andropogon gerardii*), little bluestem (*Schizachyrium scoparium*), purpletop (*Tridens flavus*) and indian grass (*Sorghastrum nutans*). Non-natives such as Kentucky bluegrass (*Poa pratensis*) and reed canarygrass (*Phalaris arundinacea*) are present. Successional field habitat is dominated by eastern red-cedar

(*Juniperus virginiana*), gray birch (*B. populifolia*) and multiflora rose (*Rosa multiflora*). There are no known federally listed plant species on the refuge.

Wildlife

The refuge provides habitat for a wide diversity of vertebrate and invertebrate fauna. It provides both migratory and nesting habitat for 248 species of birds throughout the year. While there are no federally listed species of birds, there are 20 state listed species found on the refuge. Approximately 40 species of mammals can also be found on the refuge including the federally listed Indiana Bat (*Myotis sodalis*) and the state endangered Bobcat (*Lynx rufus*). There are also about 40 species of herptiles including the federally threatened bog turtle (*Glyptemys muhlenbergii*) and the state threatened wood turtle (*Clemmys insculpta*).

C. Social/Cultural Resources

Population

Development is occurring at a rapid rate in northern New Jersey. In 2009, Sussex County, N.J. had a population of 153,118 (U.S. Census Bureau 2011). This represents a 4.8-percent increase from 2000. For comparison, the State of New Jersey had an overall 3.5-percent increase in population over the same 9-year period. The recent passage of the Highlands Water Protection and Planning Act (Highlands Act) will afford additional protection for areas that lie within the designated Preservation Area. It is still too early to predict how the Highlands Act will affect municipal land use and land preservation within the Skylands Landscape Region. However, the Highlands Act will result in additional protection for critical wildlife habitat in areas that lie within the Preservation Area. In the short-term, this will be accomplished through strict limitations on impervious cover; limitations on development on steep slopes, in forested areas, within 300-foot buffers of all water bodies, and in flood areas; and implementation of Category 1 water quality protections on all Highlands waters.

Orange County, N.Y., had a population of 372,893 as of 2005 (<http://quickfacts.census.gov/qfd/>), an increase of 9.1-percent from 2000. According to the New York State Comprehensive Wildlife Conservation Strategy (NYS Department of Environmental Conservation 2006), between 2000 and 2015, the greatest increase in human population in New York State will be in the lower Hudson River corridor; specifically, in the increasingly suburban Orange County (13-percent increase by 2015).

Communities

The following table shows population and land area affected by Refuge ownership; population estimates in 2009 were obtained from <http://www.census.gov/>.

Table 1. Towns in Sussex County, NJ, and Orange County, NY, that contain Refuge land.

Town	County	2004 Population	Acres	Acres of Refuge* Land (as of 04/2011)	% of Town Land Area Affected
Frankford	Sussex	5,594	22,656	120	0.35%
Hardyston	Sussex	8,325	20,864	282	1.4%
Vernon	Sussex	24,825	45,120	3089	6.8%
Wantage	Sussex	11,600	43,200	1839	4.3%
Warwick	Orange	33,080	67,136	315	0.47%
Total		83,424	198,976	5605	2.8%

* Acreages are approximate

Economy

Sussex County is a bedroom community experiencing a rapid rate of residential development. The number one industry for the area is outdoor recreation, mainly in the form of downhill and cross-country skiing, mountain biking, hiking, sailing, canoeing, kayaking and birding. Recreational facilities such as water parks and golf courses also provide all-season revenue to municipalities. Agriculture contributes to the local economy as well, but overall, farming has declined in importance. Residential growth has outpaced business growth. The area lies within commuting distance of New York City and Bergen and Morris Counties in New Jersey. Because tourism and agriculture constitute most of the economic base, 60 percent of the area's workforce commutes to work outside the county. The manufacturing and technology sectors contribute only minimally to the local economy, due to the lack of major transportation facilities and access. The median household income in 2009 was \$81,488, the fifth highest in the state; the per capita income was \$35,047, the seventh highest in the state. The unemployment rate in 2009 was 4.3% (US Census Bureau).

Recreational Use/Natural Resource Utilization

Wallkill River National Wildlife Refuge provides hunting, fishing, wildlife observation, wildlife photography, environmental education and interpretation for the public. Wildlife observation is available on the Wood Duck Nature Trail, the Liberty Loop Nature Trail and Dagmar Dale Nature Trail, and by motorized boat, canoe, kayak, or rowboat along the Wallkill River. Fishing and watercraft launch sites are located on the refuge at Oil City Road, Bassett's Bridge and County Route 565. Refuge staff and volunteers occasionally visit local schools, host scout groups and occasionally lead interpretive walks on the nature trails on the refuge. The refuge is open for fishing along the Wallkill River in accordance with New York and New Jersey fishing regulations, though the refuge does not allow the removal of frogs or turtles. The part of the refuge that lies in New Jersey is also open for all state deer hunting seasons, spring and fall turkey hunting, and all migratory bird hunting except for crows. No hunting is allowed on the part of the refuge in New York State.

Cultural History

The Wallkill River area is said to have been known by the Native Americans as "Twischsawkin," meaning the land where plums abound. Many prehistoric resources are found in the area, including at least three Indian rock shelters. The Wallkill Valley was an important source of flint and chert for the aboriginal inhabitants, who used these stones to fashion their projectile points. Thus, it appears that the Native Americans not only valued the area for its abundant food resources, but also traveled considerable distances to exploit its mineral resources.

In historic times, an influx of Dutch settlers followed the Wallkill up from the Hudson River. They dubbed the Wallkill River bottomland "The Drowned Lands" because the valley flooded extensively, forming a huge lake in the spring. Before it was effectively drained, settlers used the bottomland meadows as pasturage for cattle.

As early as 1760, efforts were made to straighten, dredge, and drain the river corridor to make the land dry enough to farm. The effort didn't succeed until sixty-six years later when a large canal lowered the water table of the river. Mill owners, however, sought to keep the lands flooded, and a battle ensued between the millers and the farmers who wanted the lands drained. These battles were known as the "Muskrat and Beaver Wars". The millers were known as the "beavers." The farmers were known as the "muskrats." The disputes were finally settled in the farmers' favor in 1871.

Until just recently, the Wallkill River valley was primarily agricultural. Dairy farming is no longer the dominant economic force in the valley. Due to the proximity of the valley to larger metropolitan areas, the region is becoming more suburbanized. However, an abundance of state and federal public lands are helping preserve the natural beauty of the area and provide valuable habitat for wildlife.

VII. Environmental Consequences

A. Alternative 1. Establish an annual trapping program to allow trapping of all furbearers in accordance with New Jersey/New York state regulations as part of an integrated furbearer management program.

With implementation of this alternative, all species eligible under New Jersey and New York State trapping regulations could be harvested on the refuge in accordance with said regulations. The refuge would realize a reduction in pest-related damages incurred by some furbearers, but harvests may exceed what is necessary to protect biologically sensitive habitats and populations, and would include species that are currently beneficial and desirable members of refuge biotic communities. A refuge wide, all furbearer trapping program would exceed both what is outlined in the approved Compatibility Determination (Furbearer Management to Protect Trust Resources, Appendix V) and the refuge habitat management objectives outlined in the CCP (see page 3.)

Native species such as beavers, raccoons, woodchucks, and muskrats can become problems when their populations exceed the range of natural fluctuation and the ability of their habitat to support them. At this time, there is no data to support a conclusion that all furbearers have exceeded their range of natural fluctuation on the refuge as a whole. Until and unless the refuge determines that a species has exceeded this threshold, no control of that species is proposed.

In addition, as development pressures increase in the area, trapping is becoming less and less a culturally based activity due to changing population dynamics. As such, there is no longer an economic justification within the local community for a full-fledged trapping program on the refuge. Trapping is also not one of the six priority wildlife dependent uses of the refuge system as stated in the Refuge Improvement Act of 1997.

Beavers have in fact been an important element in the creation of much of the wooded and emergent wetland habitat which is beneficial to significant populations of breeding marsh birds, migratory waterbirds and songbirds, several of which are state listed; beaver activity may also benefit the federally-threatened bog turtle. In many cases, muskrats are not considered pest species so long as they do not impact infrastructure or sensitive habitat. Take of beaver and muskrat in amounts exceeding that necessary to protect sensitive habitats could prevent the creation of habitats desirable for other trust species.

B. Alternative 2. (Proposed Action) Establish a trapping program directed toward pest furbearers as part of an integrated pest management program.

With implementation of this alternative, trapping would be utilized exclusively as a management tool to control furbearer activity in habitats deemed biologically sensitive, where overpopulation is resulting in damage to infrastructure, or where predation of sensitive wildlife or nests has been deemed to exceed acceptable threshold levels.

A trapping program similar to the Proposed Action was in effect from 1997-1999 and was discontinued due to declining trapper interest. In 2005, refuge impoundments underwent a major reconfiguration to increase management capacity. As a result, the number and linear feet of dikes surrounding refuge impoundments increased significantly and muskrat became increasingly attracted to the habitat thus created. By 2010, an estimated population of several hundred muskrat had become established in the impoundments and was causing substantial damage to the dikes. Additionally, beaver activity in 2010 threatened sensitive habitats and necessitated treatment by staff. In recent years there has been consistent interest in the opportunity to trap beaver and muskrat on the refuge. For these reasons and others provided below, trapping directed toward pest management is the Service's preferred alternative and Proposed Action.

For several reasons, the refuge has dismissed hunting as a feasible management tool for the control of furbearers. Hunting alone is relatively ineffective in managing many furbearer species due to their secretive habits (Payne 1980). Hunting is also a highly visible activity that is not advisable at refuge areas in public view that are negatively impacted by furbearers, including Liberty Marsh. Trapping is not as conspicuous as hunting, and it is the single-most viable management alternative. Regulated trapping is a valid, ecologically-sound, versatile, safe, and cost-effective technique of managing furbearer populations (Organ et al. 2001). Regulated trapping has been documented to provide a variety of ecological benefits that are directly applicable to the Refuge including: prevention and alleviation of habitat degradation, facilitation of habitat and wildlife restoration, reduction of predation on key species of management concern, and protection of rare and endangered species (Organ et al. 2001).

According to the New Jersey Division of Fish & Wildlife, "modern, regulated trapping is used to manage habitat, monitor and control animal populations, protect and reintroduce endangered species, protect public and private property and conduct research. It is a technique for sustainable, consumptive use of the wildlife resource." Regulated trapping does not, in any way, jeopardize the continued existence of any wildlife population (Organ et al. 2001). Furbearers are typically abundant, adaptable species often covering large geographic areas. Allowing regulated trapping on the Refuge would not significantly impair the viability of furbearer populations. Refuge staff will monitor and evaluate the status of furbearer populations on a regular basis, and respond with appropriate management options.

Regulated trapping is recognized as a legitimate activity and sustainable use of wildlife resources within the National Wildlife Refuge System, and has been an important tool for the accomplishment of refuge management and restoration programs for many years (Organ et al. 2001). Implementation of the proposed alternative would establish an annual trapping program on the Refuge that is consistent with management objectives. According to the Refuge's CCP, the furbearer management program should be expanded where sensitive refuge habitats are impacted, and problem animals should be removed through lethal means when necessary. Regulated trapping of pest furbearers would be a vital tool for the protection of wildlife habitat and infrastructure on the Refuge, as well as for infrastructure on adjacent private lands and inholdings. Refuge furbearing species populations must be managed at levels consistent with Refuge habitat, wildlife, and public use objectives. Trapping on the Refuge would be: (1) regulated by the statutes and regulations governing trapping in New Jersey as set forth by the New Jersey Division of Fish & Wildlife (New Jersey Permanent Statutes, Title 23; see Appendix I) and the New York Bureau of Wildlife (New York State Department of Environmental Conservation; see Appendix II), (2) conducted

under refuge-specific conditions of a Special Use Permit (which would include reporting of trapper effort and harvest), and (3) evaluated annually by biological surveys and condition assessments relating to maintenance of refuge infrastructure.

In the past, neighboring landowners have expressed concern about flooding due to on-refuge beaver activity, and refuge infrastructure has been affected by this and other furbearer activities. The Liberty Loop Impoundments, constructed in 2005, are home to several hundred muskrats, and the population increases substantially each year. Muskrats are prolific breeders and under favorable conditions may raise 20 young per season (Washington Department of Fish & Wildlife 2005). Burrowing activity has threatened the integrity of the dikes circling the impoundments, which compromises the ability of refuge staff to properly manage water levels. In the past, various methods have been utilized to limit muskrat activity, including lowering water levels in the winter. However, the muskrat population continues to rise. Trapping is a safe, effective, and viable alternative to respond to these problems.

In addition to causing flooding on neighboring properties, beavers have caused detrimental damage to the refuge's Atlantic white cedar swamp. This type of habitat is, according to the Nature Conservancy, a globally-imperiled ecosystem (Master 1981; Fuss 2001). Atlantic white cedar is considered to be in decline throughout much of its natural range because of logging and loss of habitat. Atlantic white cedar swamps are subject to alterations in hydrology and ecology from human and natural disturbances (Ferrell, et al. 2007). Beaver activity can contribute to flooding that affects vegetation (Little and Somes 1965; Zampella and Lathrop 1997), as was the case on the Refuge in 2010. In June of that year, a beaver dam was discovered in the swamp. The water level was approximately 2 feet higher than normal conditions, and most of the cedars were visibly stressed from the flooding; many are now dead. The dam was broken up by refuge staff to allow water to drain out, but beavers are still present in the area and could potentially rebuild the dam. Trapping of beavers is the only feasible alternative for saving this delicate ecosystem.

Furbearers sometime have negative impacts on wildlife. Raccoon, skunks, and other furbearers predate on nests of turtles and birds (Rulison 2010), including threatened and endangered species (Furbearer Conservation Technical Work Group 2006). Bog turtles, a federally-threatened and state-endangered species, are present on only three National Wildlife Refuges, Wallkill River being one of them. Wood turtles (state-threatened) and box turtles (state-listed special concern) are also present. The Refuge is also home to a number of breeding migratory and resident waterfowl and songbirds. Although predation is a normal part of natural systems, concerns arise when it prevents the meeting of conservation objectives. Having the option to trap predators of species of concern, and having the resources available to do so, could protect and potentially enhance populations of important wildlife.

By administering the program under an annual Special Use Permit (Appendix IV), the refuge manager has a ready list of contacts to whom requests for specific management needs can be directed for dealing with problem areas, targeting offending individuals for removal, or for assistance with wildlife and habitat surveys or research. Additionally, a harvest report will be required from each trapper following the close of trapping season that will include data about trapping effort, time span of trapping by species, number of target and non-target species harvested, refuge areas trapped, and remarks on observations of wildlife and their sign, and other noteworthy ecological information. These data can provide a basis for catch-per-unit effort and population trend analyses, and will allow Refuge staff to modify the furbearer trapping plan appropriately on a yearly basis.

A regulated trapping program as described under this alternative would be compatible with the purposes for which the Refuge was established, Refuge management objectives, the purpose and mission of the National Wildlife Refuge System, and is consistent with the goals of the National Wildlife Refuge System Improvement Act of 1997. A program of regulated trapping on the Refuge as described under this alternative is not expected to conflict with other public use on the Refuge. Trapping is generally an inconspicuous activity; traps are generally hidden from view, typically are not set near roads, and are checked early in the morning. These aspects of trapping will limit

encounters between traps or captured animals and those engaged in other public use activities.

C. Alternative 3. (No Action/Status Quo) No trapping program.

With implementation of this alternative, damage to infrastructure and sensitive habitats or excessive predation of sensitive wildlife and nests would be remedied by staff effort where possible (via destruction of beaver dams and/or relocation or trapping of nuisance wildlife.) The level of effort required to remedy such damage may exceed available staff resources (time, funding) and thus damage to infrastructure and to sensitive habitats or wildlife may accrue.

Typically, the above-mentioned problems (infrastructure damage, predation of wildlife and nests) would occur and thus be dealt with in late spring or summer. At this time of year, captured animals cannot be pelted or sold and therefore would be left for scavengers. While this has minimal negative impacts, it precludes use of the animal for the benefit of food, clothing, or income.

The complete absence of a trapping program would not be consistent with overall refuge habitat management objectives. The CCP specifically allows for trapping as described on page 3.

Failure to remedy damages caused by furbearers (likely to occur if staff effort is the only means available) will have monetary costs as well as costs to habitat and wildlife. Any failure of the dike system on the Liberty Loop (a likely result of excessive muskrat or beaver activity) would compromise the ability to manage water levels in the impoundments for the thousands of migratory water birds that pass through each spring and fall. Public use of the trail would be affected if damage to the dikes resulted in safety concerns; as this is also a portion of the Appalachian National Scenic Trail, effects would also be felt by the National Park Service, the Appalachian Trail Conservancy, and users of the Appalachian Trail. The monetary costs of repair or repeated maintenance of the dikes could exceed tens of thousands of dollars or more in the long term. Impacts to or mortality of the globally rare Atlantic white cedar bog habitat would be significant and any efforts to restore this habitat would not be possible without pest control. Nest predation of threatened or endangered species and the many species of concern present on the refuge could have serious consequences for the survival of these species.

VIII. Literature Cited

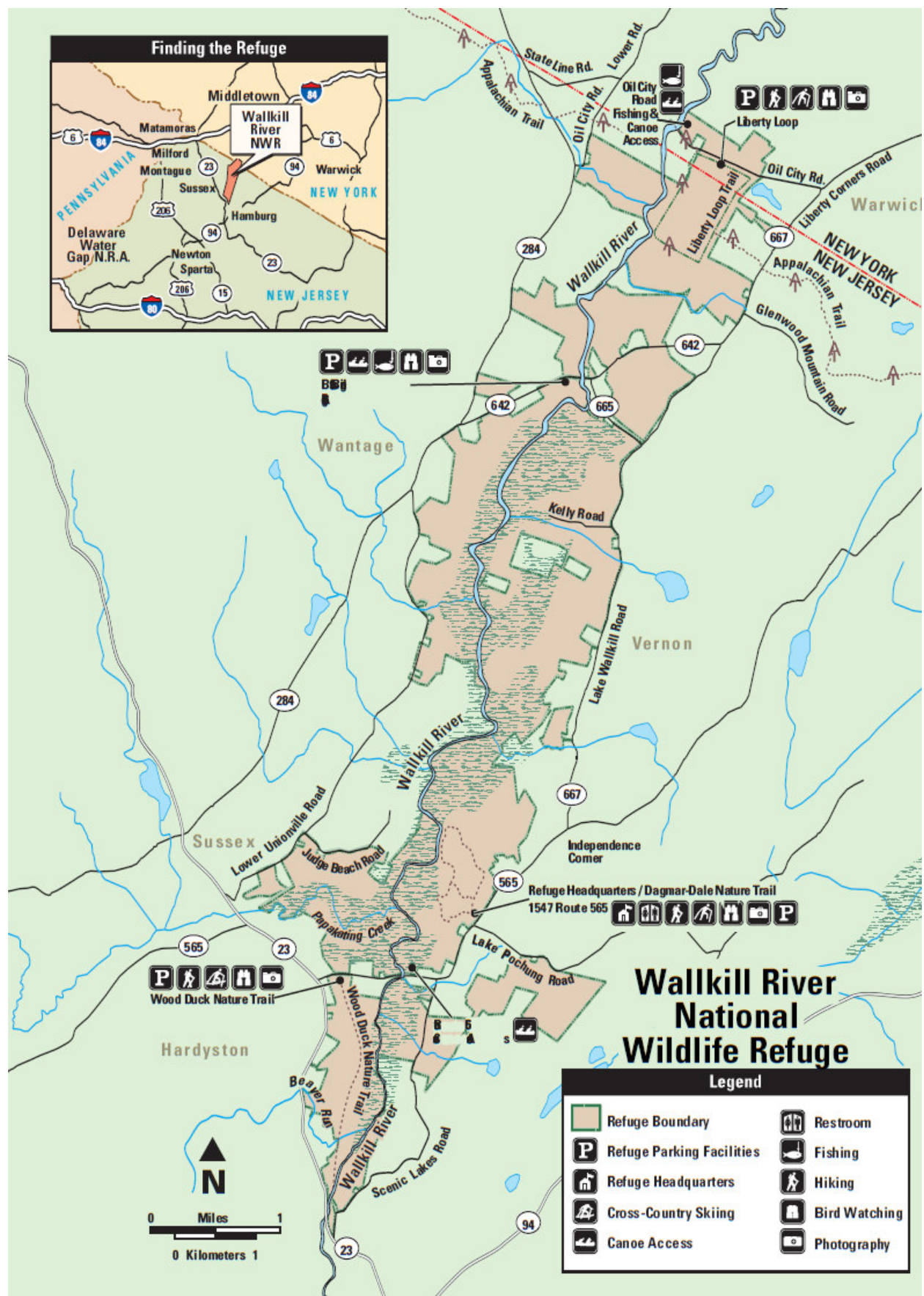
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Figure 1. Map of Wallkill River National Wildlife Refuge.



Appendix I. 2011 New Jersey trapping seasons and regulations. (per New Jersey Permanent Statutes, Title 23; New Jersey Division of Fish & Wildlife 2011)

Note: The New Jersey regulations below were reproduced from pages 70-71 of the August 2011 New Jersey Fish & Wildlife Digest. New Jersey Division of Fish & Wildlife. Trenton, NJ. Please refer to the 2011-2012 NJ Fish & Wildlife Digest or the NJDFW website (<http://www.state.nj.us/dep/fgw/index.htm>) for complete and updated regulations. Wallkill River National Wildlife Refuge is not legally responsible for the regulations that appear here.

- A trapping license is required and a Trapper Education course must be passed. See pages 1 and 10 for license information.
- All traps set or used must bear a legible tag of durable material with the name and address of the person setting, using and maintaining the traps.
- A trap identification number issued by Fish and Wildlife may be used in lieu of a name/address tag. A photocopy of your current and valid trapping license plus a daytime telephone number will be required. Contact the Bureau of Wildlife Management at (609) 292-6685 for more information.
- No traps or trap stakes are to be set prior to times indicated in this section.
- All traps must be checked and tended at least once every 24 hours, preferably in the morning.
- No trap shall be permitted to remain set on any property at the close of the trapping season.
- No person shall steal or attempt to take traps of another, or remove a trapped animal without permission of the trap owner.
- Any person (including a farmer) who traps a coyote must notify a Fish and Wildlife Law Enforcement office within 24 hours.
- Licensed trappers at least 18 years of age and in possession of a valid rifle permit may carry a .22 caliber rifle and use only .22 caliber short rimfire cartridges to kill legally trapped animals other than muskrat. Firearms may not be loaded with more than three rounds.

Beaver and River Otter

Beaver may be taken only by properly licensed trappers in possession of a special beaver trapping permit valid for an entire management zone, or a special site-specific beaver permit valid as designated on the permit. River otter may only be taken by properly licensed trappers in possession of a special river otter trapping permit valid for an entire management zone. Application can be made at license agents or via Fish and Wildlife's Internet license sales site www.NJ.WildlifeLicense.com. Applicants must have a current and valid trapping license to apply.

Zone maps, boundary descriptions and permit quotas are available on our Web site or call (609) 292-1473. Applicants must have a current and valid trapping license to apply. The application period is October 1–31. Applicants may apply for only one beaver trapping permit and/or one otter trapping permit. If the number of applications exceeds the permit quota, a random lottery drawing will be held to determine permit holders. Successful beaver permit applicants will be given first opportunity for otter permits in their respective zone.

Beaver trappers may indicate on their application if they wish to be considered for a site-specific beaver permit within your chosen zone. Site-specific permits are issued for properties where confirmed beaver damage or nuisance problems exist. A separate, random lottery will determine site-specific permit holders; however, applicants who did not receive a zone-wide beaver permit will have first opportunity for a site-specific permit.

Other beaver/otter rules and regulations:

- Holders of a beaver trapping zone permit may use a maximum of five traps daily **in each** management zone for which they possess a permit.
- Holders of a site-specific permit may use an additional five traps daily only at the location specified on the permit.

- Holders of a river otter trapping permit may use a maximum of three traps daily.
- Trappers may only possess one Special River Otter Trapping Permit per season.
- All beaver and otter trap tags must be clearly visible above the water or ice.
- A Fish and Wildlife-issued Beaver Transportation Tag or Otter Transportation Tag must be affixed to the beaver or otter carcass immediately upon taking possession of the animal.
- All otters harvested incidentally by beaver trappers (i.e., trappers possessing a beaver permit but not an otter permit) must be fully surrendered to the Division of Fish and Wildlife. The entire carcass, including the pelt, must be surrendered.
- All successful trappers (or their agents) must present their beaver and/or otter pelts at a designated check station for examination where pelt tags will be affixed. All otter carcasses must be surrendered when pelts are registered, as required by the Game Code. **Failure to submit your carcass will result in the issuance of a citation by the Bureau of Law Enforcement.**
- Trappers are requested to properly flesh and stretch all pelts for examination. Additional information on check stations will be provided to all permit holders.
- Fish and Wildlife will staff check-in stations at the Assunpink, Clinton, Flatbrook, Tuckahoe and Winslow WMAs and the Newfoundland Fire Company on Saturday, Feb. 25, 2012. Successful trappers who cannot attend the scheduled dates should contact either Joseph Garris at (908)735-7040 or Andrew Burnett at (609) 748-2058 prior to Feb. 20 to make alternate arrangements.
- Permit holders will be notified via email, telephone or U.S. mail in the event the beaver and otter trapping season is extended for any reason, and notified of any change in the pelt registration date.

Fisher

Fishers are returning, naturally and through reintroduction efforts in New York and Pennsylvania, to most of their historic range in the northeastern United States. Fishers have been documented in several northern New Jersey counties and as far south as Cape May County.

The Fish and Game Council defines fisher as a furbearer to clarify its status; however there is no open trapping season at this time; possession is not permitted. If you find a live fisher on your trapline, do not disturb the animal or the set but immediately notify Fish and Wildlife by calling 1-877-WARNDEP (927-6337). A Fish and Wildlife technician will provide further instructions. For a dead fisher on your trapline, call 1-877-WARNDEP; a Fish and Wildlife technician will make arrangements to pick up the animal. Biological samples will be taken from all fisher carcasses then analyzed for age and reproductive status. The data collected will be instrumental to determine when an open season may be established in the future.

Traps, Body Gripping Restraining Type (Snares)

- No person shall set, use or maintain any type of snare unless they have first passed a Fish and Wildlife-approved trapper education course and carry on their person appropriate certification thereof.
- All natural baits consisting of fish, bird or mammal carcasses or flesh used in trapping with body gripping restraining snares must be covered or concealed from view except when placed at least 30 feet from any trap set.

Body gripping restraining snares set for mink, muskrat and nutria are subject to the following requirements:

- All such traps must be constructed of aircraft cable or crucible wire measuring 1/32, 3/64 or 1/16 inches in diameter, equipped with a swivel and set within 50 feet of the mean high water line;
- All such traps must be equipped with a stop to prevent the average loop diameter from exceeding 4 inches; and,
- All such traps must be set so that the distance between the ground/walking surface to the top of the loop does not exceed 7 inches.

Body gripping restraining snares set for coyote, fox, opossum, raccoon, skunk and weasel shall be subject to the following requirements:

- All such traps must be constructed of aircraft cable or crucible wire measuring from 5/64 to 1/8 inches in diameter and be equipped with a swivel;
- All such traps must be equipped with a deer stop located no less than 6 inches from the beginning of the cable and a loop stop to prevent the average loop diameter from exceeding 12 inches; and,
- All such traps must be set so that the distance between the ground / walking surface to the top of the loop does not exceed 24 inches.

The above requirements for cable diameters, loop stops and loop sizes do not apply to body gripping restraining snares that are completely submerged underwater at all times (e.g., when set for beaver or river otter).

Traps, Conibear or Killer-type

No Conibear or killer-type trap shall be used in non-tidal waters unless completely submerged underwater when the water is at the normal level. In tidal water, such traps must be completely covered at normal high tide.

It is illegal to use, set or possess a Conibear or killer-type trap having a jaw spread greater than 6 inches without a permit for beaver or river otter. A Conibear or killer-type trap with a jaw spread of no more than 10 inches may be used for beaver or river otter. Jaw spread shall be measured between the inner edges of the jaws across the trigger of a set trap.

Beaver and otter trap tags must be placed above the water line and exposed to view.

Traps, Leg-hold

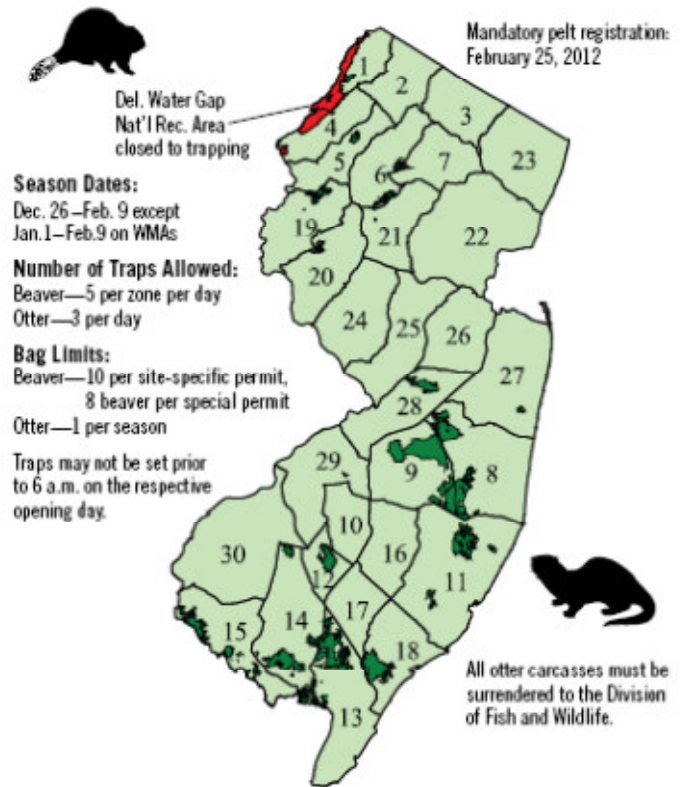
It is illegal to possess or use steel-jawed leghold traps anywhere in New Jersey.

- The following wildlife management areas (WMAs) are closed to trapping until Jan. 1: Assunpink, Berkshire Valley, Bevans (Millville), Black River, Clinton, Colliers Mills, Flatbrook-Roy, Glassboro, Greenwood (incl. Howardsville), Heislerville, MacNamara (Tuckahoe), Mad Horse, Manahawkin, Mannasquan River, Medford, Nantuxent, Peaslee, Pequest, Port Republic, Stafford Forge, Walpack, Winslow and Whittingham. Trapping is prohibited at all times on the Delaware Water Gap Nat'l Recreation Area.
- North Zone: Those portions of Bergen, Essex, Hudson, Hunterdon, Mercer, Middlesex, Morris, Passaic, Somerset, Sussex, Union and Warren counties lying north beginning at the intersection of US Rt. 1 and the Delaware River at Trenton; then north along Rt. 1 to its intersection with I-287; then south along I-287 to its intersection with Rt. 440; then east along Rt. 440 to the NJ-NY state line.
- South Zone: Those portions of Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Mercer, Middlesex, Monmouth, Ocean and Salem counties lying south of the aforementioned line.
- Holders of both a Special Beaver Permit and a Special Site-Specific Beaver Permit may use five additional traps daily on the property listed in the Special Site-Specific Permit.

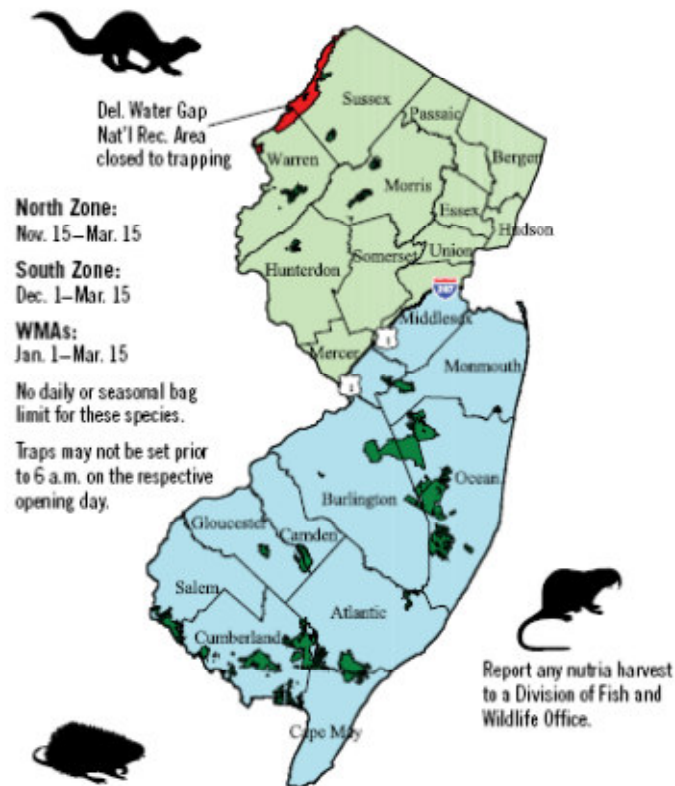
Coyote, Red and Gray Fox, Raccoon, Skunk, Opossum and Weasel Trapping



Zone Permit Beaver and River Otter Trapping



Mink, Muskrat and Nutria Trapping



Appendix II. 2011 New York trapping seasons and regulations. (New York State Department of Environmental Conservation 2011)

Note: The New York regulations below were reproduced from pages 51-56 of the 2011-2012 New York Hunting and Trapping Guide. New York Department of Environmental Conservation. Albany, NY. Please refer to the NYDEC website (<http://www.dec.ny.gov/index.html>) for complete and updated regulations. Wallkill River National Wildlife Refuge is not legally responsible for the regulations that appear here.

To hunt furbearers, you need to possess a Junior Hunting, Small Game, Small/Big Game, Conservation Legacy, Super Sportsman, Trapper Super Sportsman, Sportsman, Nonresident Small Game, or Nonresident Super Sportsman license. A trapping license does not allow you to hunt furbearers. Furbearers may be hunted with a bow or firearm as described below.

- You may hunt red and gray fox, coyote, bobcat, raccoon, skunk, mink, weasel and opossum.
- If you take a bobcat, it must be tagged and sealed.
- You may use a call, including an electronic call.
- You may hunt furbearers only after sunrise on the opening day. They may be taken at any hour, day or night, for the rest of their hunting season.
- Mink may only be hunted in the Southern Zone with a firearm not larger than .22 caliber during their open trapping season. Mink may not be hunted with a firearm in the Northern Zone.
- Muskrat may only be hunted on Lake Champlain during the open trapping season with a firearm not larger than .22 caliber.
- You may hunt furbearers during the day using any handgun, shotgun, rifle or bow. You may hunt at night as described below.

Hunting Furbearers At Night

All laws pertaining to the use of a spotlight apply (see page 18).

1. If you are hunting in an area when any deer season (including bowhunting) is open:

- You may hunt during the day or night.
- You may use a light, but you may not hunt from any motor vehicle, including an ATV.
- You may use a shotgun, muzzleloader, bow, handgun or air gun.^h
- You may use any **rimfire rifle**, except in Westchester, Nassau, and Suffolk counties where rifles are not allowed.
- You may use any centerfire rifle **ONLY** if rifles are also allowed for deer hunting in that area. (Refer to Legal Implements map on page 24.)

2. If you are hunting in an area when all deer seasons are **closed**:

- You may hunt during the day or night.
- You may use a light.
- You may use a shotgun, muzzleloader, bow, handgun or air gun.
- You may use any rifle of any caliber, except in Westchester, Nassau and Suffolk counties, where rifles are not allowed.

Hunters should consult with local government officials for any laws that may prohibit the discharge of firearms at night.

- The use of a light-gathering (starlight) scope is legal on any firearm listed above.

New Furbearer Possession Tag

Furbearer Possession Tags may be printed or downloaded from the DEC website:

<http://www.dec.ny.gov/outdoor/29046.html>. Tags may also be obtained by calling (518) 402-8883 or writing to: Furbearer Possession Tag, 625 Broadway, Albany, NY 12233-4754.

BOBCAT HUNTING

Hunting Hours:
After sunrise on opening day; and at any hour, day or night, for the rest of the open hunting season.

Season Dates 2011/12

- Oct. 25–Feb. 15
- Oct. 25–Dec. 10
- Closed

There are no bag limits.

If you take a bobcat you must:

1. Complete a Furbearer Possession Tag (see below) AND
2. Get the pelt or unskinned animal sealed (see page 52).

WEASEL, OPOSSUM, SKUNK, RACCOON AND FOX HUNTING

Long Island: Nov. 1–Feb. 25

All other areas of New York: Oct. 25–Feb. 15.

There are no bag limits for these species. They may be hunted during the day or night.

COYOTE HUNTING

Statewide except Long Island and New York City: Oct. 1–March 25

There are no bag limits for coyotes. They may be hunted during the day or night.

DEFINITION OF TRAPPING

To trap means to take, kill or capture wildlife with traps, deadfalls and other devices commonly used to take wildlife, including the shooting or killing of lawfully trapped animals. It also includes all related activities such as placing, setting, staking or checking traps or assisting another person with these activities. You do not need a hunting license to shoot a trapped animal.

OTHER DEFINITIONS

- **Public Highway:** The traveled portion of a public highway. Culverts, drainage ditches, and the area under bridges are not considered the traveled portion of a public highway.
- **Carcass:** The body or parts thereof, meat, organs or viscera of an animal, including fish. Feathers (including feathers with attached skin or entire bird wings), hair (with or without skin or hide), and bones that include no attached meat, organs or viscera, are excluded from this definition.
- **Suspension:** This term applies to animals fully suspended in the air by means of the trap anchoring system (typically a chain, cable or wire). It does not apply to traps set in water or to traps that are directly and firmly attached to an elevated structure, such as a tree.
- **Restraining trap:** A device used to capture and restrain a mammal. These traps include leg-gripping traps (“foothold traps”), foot encapsulating traps, and cage or box traps.
- **Foot encapsulating trap:** A trap with the following mechanical attributes: The triggering and restraining mechanisms are enclosed within a housing; the triggering and restraining mechanisms are only accessible through a single opening when set; the opening does not exceed 2 inches in diameter; and the trap has a swivel mounted anchoring system.

- **Cage or box trap:** A type of restraining trap that fully encloses a captured animal within wood, wire, plastic, or metal.

LEGAL TRAPS

- You must put your name and address or your DEC customer identification number (i.e., your back tag number) on all your traps.
- Foothold traps larger than 4" set on land must have a pan tension device and be covered when set.
- Teeth are not allowed on foothold traps.
- On land, foothold traps must be 5¾" or smaller (inside jaw width).
- During beaver or otter season, foothold traps up to 7¼" are allowed if set under water.
- When the beaver or otter season is closed, foothold traps set in water for mink or muskrat may not be larger than 5¾".
- A foothold trap larger than 7¼" is never legal to use.
- Body-gripping traps more than 7½" may never be used on land.
- Body-gripping traps more than 7½" may only be used in water during an open beaver or otter season.
- Snares cannot be used for trapping.
- Box or cage traps are legal for all species.
- You cannot use a cage trap that is designed to take more than one muskrat at a setting.

TRAPPING METHODS

Checking traps

- In the Southern Zone: You must check traps once in each 24 hour period.
- In the Northern Zone, follow these rules:
 - **WMU 5C, 5F, 5G, 5H, 5J, 6F, 6J and 6N:** Visited once in each 48 hour period
 - **WMU 5A, 6A, 6C, 6G, 6H and 6K:**
 - **Traps set in water during the open season for beaver, otter, mink and muskrat:** Visited once in each 48 hour period
 - **Body-gripping traps set on land:** Visited once in each 48 hour period
 - **Restraining traps:** Visited once in each 24 hour period

Use Of Carcasses

Any carcass, as defined above, used as bait and placed or used in conjunction with a foothold trap shall be completely covered at the time the trap is set or visited. Coverings shall include but not be limited to brush, branches, leaves, soil, snow, water, or enclosures constructed of wood, metal, wire, plastic or natural materials; and must completely cover the carcass so that it is not visible from directly above.

Land Trapping

- You may not set a trap in such a manner that it causes a captured animal to be fully suspended in the air.
- You may not set a trap on a public road. You are allowed to set a trap in a culvert or ditch unless the property is posted or the landowner does not allow trapping.

After December 10th in the Northern Zone, body-gripping traps set on land may not be set with bait or lure.

Water Trapping

- You may set a trap in a permanent body of water only when the mink, muskrat, otter, or beaver season is open.
- You may not disturb a beaver lodge, beaver dam, or muskrat house or den.
- You may not set a trap on or within 5 feet of a muskrat house.

Land Or Water Trapping

- You may use any legal method to kill a trapped animal. You do not need a hunting license to use a firearm to kill a legally trapped animal.
- You may not set or stake a trap prior to 7:00 am on opening day.
- You are not allowed to set a trap within 100 feet of a house, school, playground or church unless you have permission from the owner of the land where the trap is set.

Trapping Near Beaver Dams

You may set a trap on or near (within 15 feet of) a beaver dam ONLY under these conditions:

- You are trapping during an OPEN otter season.
- If the otter season is CLOSED, you may use these traps:
 - Body-gripping trap that measures less than 5.5 inches.
 - Foot encapsulating trap.
 - Foothold traps that are 4¾ inches or less.
 - Cage or box traps.

By limiting the trap sizes that are usable on beaver dams, this regulation provides greater opportunities for trappers while minimizing the accidental capture of otter.

PELT SEALING

Otter, bobcat, fisher and marten must have a plastic seal attached to the pelt or unskinned animal before

- It is sold or ownership is transferred to another person, or
- It is mounted or tanned, or
- It leaves New York State, or
- 10 days have passed since the close of the season where the fur was taken.

The plastic pelt seals can be removed when the pelt is processed for taxidermy, tanning or manufacturing.

NOTE: You are no longer required to fill out furbearer possession tags for beaver or to have beaver pelts sealed.

How To Get Your Pelts Sealed: A 2-Step Process

- **Step 1:** Fill out your furbearer possession tag.
 - A possession tag must be filled out for each animal you take.
 - Possession tags must be filled out immediately after you reach your motor vehicle, camp or home, whichever comes first.
 - Possession tags must stay with the animal or pelt at all times, but they do not need to be attached to the pelt.
 - Furbearer possession tags can be obtained from your regional wildlife office (see page 8) or at www.dec.ny.gov/outdoor/29046.html
- **Step 2:** Get your pelt sealed (see below).

All Species

- A completed furbearer possession tag must be submitted to obtain a plastic pelt seal.
- You can give your pelts to another person (other than a taxidermist) so he or she can get the pelts sealed or get them skinned. You must give that person your trapping license or a copy of your license and your completed possession tags while he or she has your pelts.

Otter, Bobcat, Fisher And Marten

- Only authorized Department representatives can attach the plastic pelt seals to otter, bobcat, fisher or marten.

- Call a regional wildlife office (see page 8) to make arrangements to get your otter, bobcat, fisher, or marten sealed. Seals for these species cannot be sent through the mail.
- Prior to having a marten sealed, you must submit the entire carcass.

BUYING AND SELLING FUR

- Species requiring a pelt seal cannot be bought or sold or given to another person unless it has the plastic pelt seal on it. All other species may be bought, sold, and transported without restriction.
- Furbearers may be bought or sold either skinned or unskinned.
- People who buy fur do not need a fur buyer's license in New York.

RIGHTS OF TRAPPERS

- No one may disturb a trap lawfully set by another person.
- No one may remove a lawfully trapped animal from another person's trap.
- No one may harass a trapper while he or she is trapping.

LICENSE RESPONSIBILITIES

- A license is not transferable and can be used only by the person to whom issued.
- A license to trap does not give the holder any right to go on private property without permission of the landowner.
- It is illegal to refuse to show your license on demand to a law enforcement officer or the owner, lessee or person in control of the lands (or their designees) while on their property.

INCIDENTAL AND ACCIDENTAL CAPTURES OF TRAPPED ANIMALS

There are no provisions in the Environmental Conservation Law allowing trappers to possess animals that are taken outside of the open trapping season.

You must attempt to release any animals that are accidentally captured when the season is closed or if the area is not open for trapping that species.

If the animal is injured to the extent you believe it will not survive, humanely dispatch it. If you are not sure, contact a DEC Regional Wildlife Office for assistance.

When you find an unintentionally captured animal dead in the trap, or when you must dispatch an unintentionally captured animal due to a serious injury, you may remove it and lay it in the vicinity of the trap. There are no legal provisions for you to keep it, and you may not possess it even to take it back to your vehicle without permission from DEC.

DEC seeks information on all accidentally taken bobcat, otter, fisher, marten and other species of unusual nature. If the animals are dead, a DEC wildlife biologist may want to collect the carcass. The location and carcass data are the most valuable information DEC can obtain regarding the status of these species.

Contact a Regional Wildlife Office or an Environmental Conservation Officer as soon as possible to report the catch. You will receive instructions on what to do and information to provide.

POSSESSION OF ROAD-KILLED FURBEARERS

If the trapping or hunting season is open for the species in a WMU, you may keep a dead furbearer found on roads within that WMU. The requirements for possessing road-killed furbearers are the same as for trapping and hunting. For example, if you find a road-killed fisher in an area with an open fisher season and you possess a

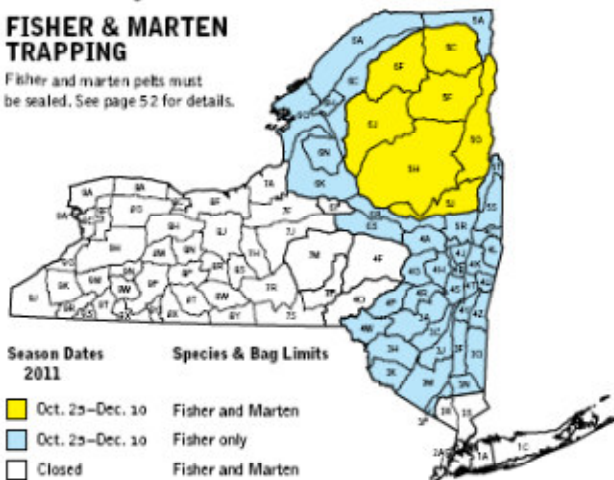
trapping license, you have to contact DEC for a pelt seal. If you find a bobcat, you can possess it if you have a small game or trapping license, but you also must have it pelt sealed.



A special permit is required for trapping marten. Contact DEC's Wildlife Office at Warrensburg (518) 623-1240 for details.

FISHER & MARTEN TRAPPING

Fisher and marten pelts must be sealed. See page 52 for details.



Season Dates 2011

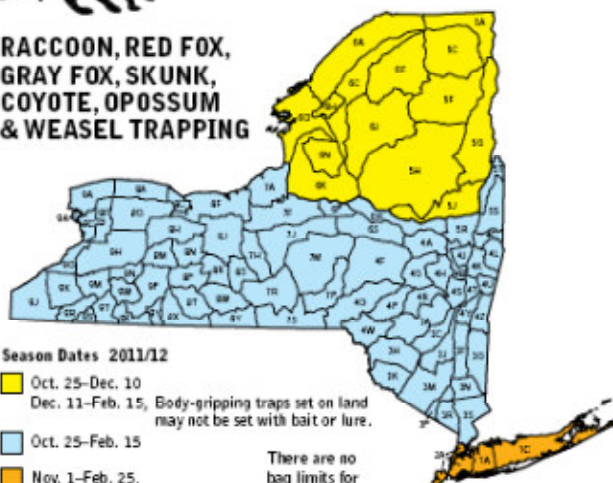
- Oct. 25-Dec. 10
- Oct. 25-Dec. 10
- Closed

Species & Bag Limits

Fisher and Marten
Fisher only
Fisher and Marten
Season limit of 6 martens.
No limit for fisher.



RACCOON, RED FOX, GRAY FOX, SKUNK, COYOTE, OPOSSUM & WEASEL TRAPPING



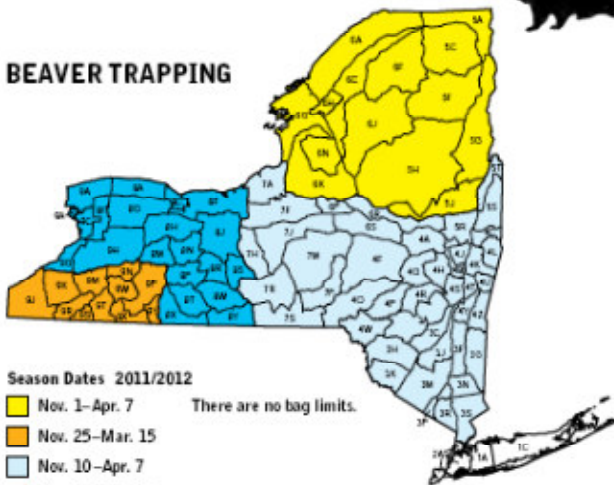
Season Dates 2011/12

- Oct. 25-Dec. 10
- Dec. 11-Feb. 15, Body-gripping traps set on land may not be set with bait or lure.
- Nov. 1-Feb. 25, except closed for coyote

There are no bag limits for these species.



BEAVER TRAPPING



Season Dates 2011/2012

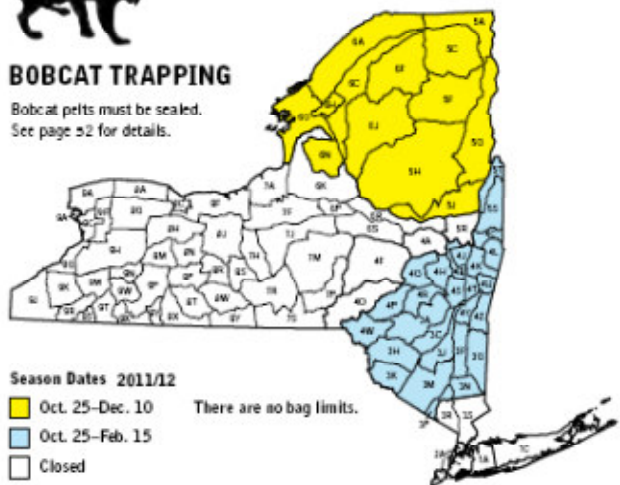
- Nov. 1-Apr. 7
- Nov. 25-Mar. 15
- Nov. 10-Apr. 7
- Nov. 25-Feb. 15
- Closed

There are no bag limits.



BOBCAT TRAPPING

Bobcat pelts must be sealed. See page 52 for details.



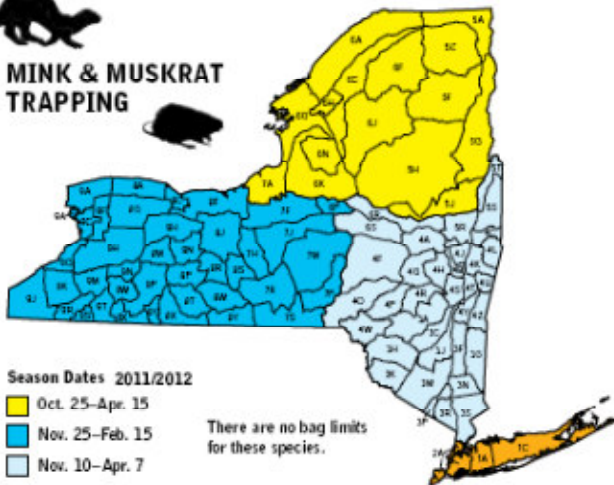
Season Dates 2011/12

- Oct. 25-Dec. 10
- Oct. 25-Feb. 15
- Closed

There are no bag limits.



MINK & MUSKRAT TRAPPING



Season Dates 2011/2012

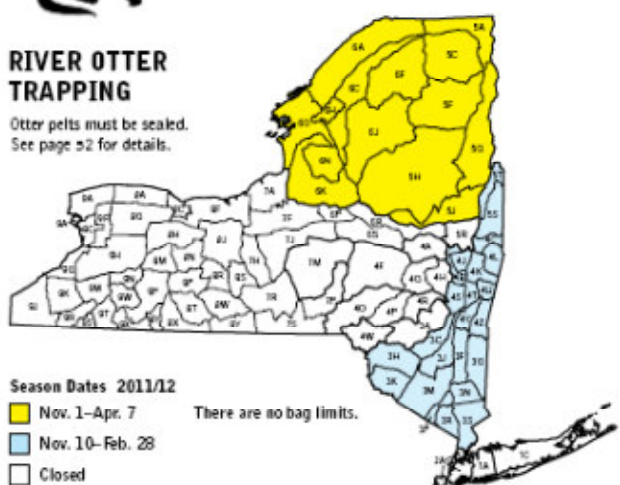
- Oct. 25-Apr. 15
- Nov. 25-Feb. 15
- Nov. 10-Apr. 7
- Dec. 15-Feb. 25

There are no bag limits for these species.



RIVER OTTER TRAPPING

Otter pelts must be sealed. See page 52 for details.



Season Dates 2011/12

- Nov. 1-Apr. 7
- Nov. 10-Feb. 28
- Closed

There are no bag limits.

TRIGGER REGULATION FOR BEAVER TRAPPERS

This regulation applies if you:

- Trap in a WMU in the Southern Zone during a closed otter season
- Use a body-gripping trap larger than nine inches (these are "330" size traps)

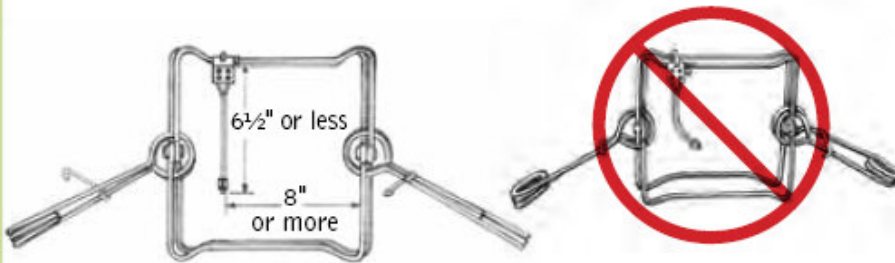
How to measure a body-gripping trap:

Measure the inside distance between the outer frames of the trap. The addition of one or more bars to the inside of the frame does not change the way these traps are measured. The measurement is still the MAXIMUM distance as shown in this picture.



Specific requirements of the regulation are shown here in the diagrams below.

1. Body-gripping trap with off-set parallel trigger:



2. Example of non-legal vs. legal trigger brackets:

Non-legal: V-notch, four-way trigger

Legal: square-notch, two-way trigger



Two-way
tension
adjustable
(legal)

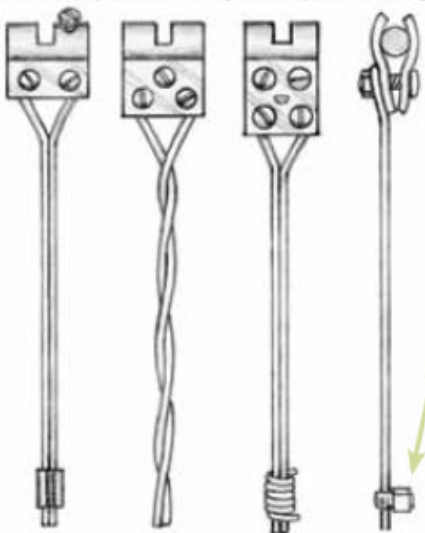


Not tension
adjustable
(legal)



Four-way
trigger
(not legal)

3. Examples of acceptable parallel triggers:



The trigger must
be 6 1/2" or less.

Recommended
tension: 8 to 12 oz.

Trigger wires must
be joined together.

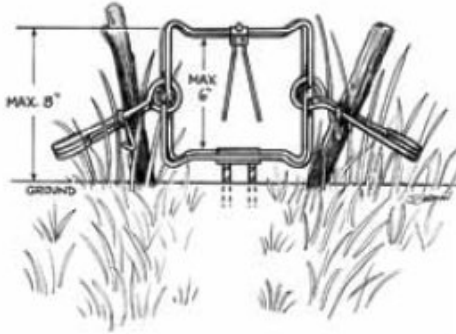
NOTE:

1. You can bait these traps in any manner. However, the trap must have all of the features noted above.
2. There is no exception for traps set under ice: traps set under ice, whether baited or not, must have all of the design features noted above.
3. There is no tension requirement. However, DEC research showed that 8 to 12 oz. of tension works best for protecting otter and catching beaver.

4. Tension adjustable triggers and trigger stops are no longer required.

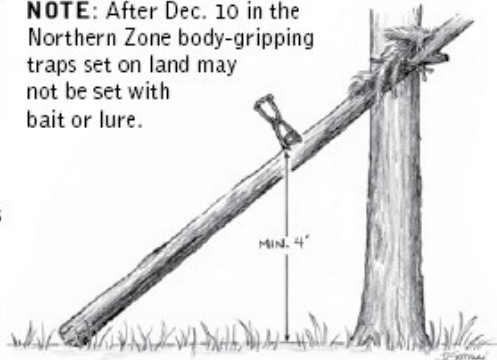
REGULATIONS FOR BODY-GRIP TRAPS SET ON LAND.

Body-gripping traps set on land shall not be within 100 feet of a public trail except on Wildlife Management Areas.



A body-gripping trap measuring less than 5½ inches may be set in any manner **with or without the use of bait**. Body-gripping traps measuring 5½ inches to 6 inches, set without the use of bait, must be set so that no part of the trap is 8 inches or more above the ground.

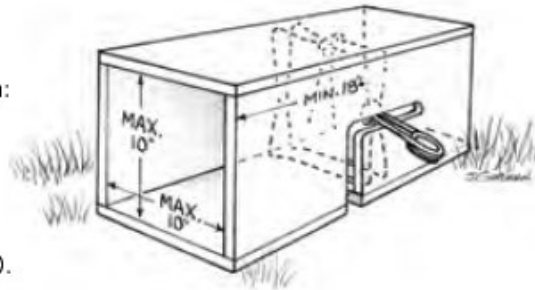
NOTE: After Dec. 10 in the Northern Zone body-gripping traps set on land may not be set with bait or lure.



Body-gripping traps 5½ inches to 7½ inches set **with the use of bait, lure, or other attractants** may only be used as follows:

- ✓ Four or more feet off the ground

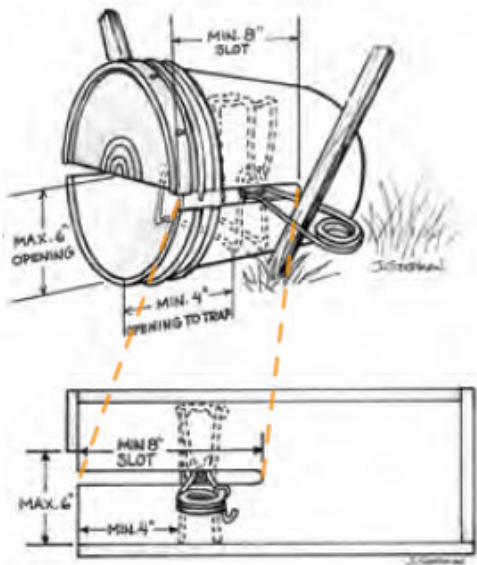
- ✓ In a container of the following design:
 - trap recessed minimum of 18 inches
 - opening height and width 10 inches or less



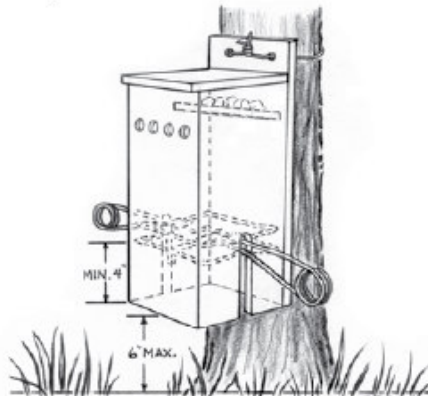
- ✓ In a container of the following design:
 - opening height 6 inches or less
 - 8 inch minimum spring notches
 - trap recessed minimum of 4 inches

You may also build an enclosure of natural materials (e.g., logs or rocks).

- opening height 6 inches or less
- trap recessed minimum of 8 inches



- ✓ In a container of the following design:
 - only one entrance, facing the ground
 - container set so entrance is no more than 6 inches from ground
 - trap recessed minimum of 4 inches



Appendix III. 2011 Refuge Special Use Permit conditions governing trapping on Wallkill River National Wildlife Refuge.

REFUGE SPECIAL USE PERMIT CONDITIONS

1. Permittees must comply with all conditions outlined on the reverse side of the standard Fish and Wildlife Service Trapping Permit, Exhibit 1 in Chapter 7, Section 15 of the Refuge Manual (U.S. Fish and Wildlife Service 1985)
2. Permittees must comply with all applicable State regulations. Trapping units will conform to State borders.
3. Permittees must trap on their own units. One helper is allowed. The helper must also be listed on the permit and have all applicable State licenses. The helper may trap the unit without the permittee only if prior approval is granted to the permittee by the Refuge Manager.
4. Fur animals authorized to be taken on the refuge may be taken only with traps permitted under State regulations. Traps shall be set where traps or trapped furbearers are not visible from public highways, overlooks, or other visitor facilities.
5. Permittees must visit and inspect each of the traps in their trapline at least once every 24 hours. Traps may not be checked between one hour after sunset and one half-hour before sunrise of the following day.
6. Permittees may cut small trees or brush on the refuge for use only as trap stakes. Cutting is prohibited along public roads and trails or near visitor facilities.
7. Permittees must release non-target species that are uninjured immediately and report the species and number to the Refuge Manager or designee within 24 hours. Permittees must turn over to the Refuge Manager or designee within 24 hours non-target species injured or killed through trapping activities.
8. Boats may not be used as a part of trapping activities unless specified as a part of a special use permit.
9. Ingress to and egress from assigned trapping units shall be only by routes of travel approved by the Refuge Manager.
10. Permittees shall, no later than 10 days after the last day of the refuge trapping season, submit to the Refuge Manager a summary of the number of each species of animals taken and which management unit they were taken from.
11. Failure by permittees or helpers to comply with any of the above provisions or the violation of any refuge regulations, or state laws and regulations applicable to trapping on the refuge, shall render him or her subject to prosecution under said laws and regulations, and shall be cause for the revocation of this permit and for refusal of a trapping permit during the next year.
12. This permit may be terminated at any time by agreement between the issuing officer and the permittee; it may be revoked by the issuing officer for any violation of refuge or state laws or regulations applicable to trapping on the refuge or any conditions of the trapping permit; this permit may be revoked by the issuing officer for non-use.
13. The Fish and Wildlife Service assumes no responsibility in case of theft of equipment or animals.

Appendix IV. Compatibility Determination: Furbearer Management to Protect Trust Resources

Refuge Name

Wallkill River National Wildlife Refuge

Establishing and Acquisition Authority

Wallkill River National Wildlife Refuge was first designated administratively by the Service in a decision document on March 9, 1990. Congress later enacted Public Law 101-593, 104 Stat. 2955 on November 16, 1990, to confirm its establishment by special legislation. The Service has acquired lands for the Wallkill River refuge under the following authorities:

1. Emergency Wetlands Resources Act of 1986 [16 U.S.C. 3901(b)]
2. Migratory Bird Conservation Act [16 U.S.C. 715d]
3. Fish and Wildlife Act of 1956 [16 U.S.C. 742f(a)(4)]

We anticipate that the Service will continue to acquire lands in the expansion area under the same authorities that have been used to acquire lands in the past. Based on the refuge purposes, lands could also be acquired under several other legislative authorities, including but not limited to:

1. Refuge Recreation Act [16 U.S.C. 460K-1]
2. Endangered Species Act [16 U.S.C. 1534]
3. National Wildlife Refuge System Administration Act [16 U.S.C. 668dd(b)]

Refuge Purposes

- (1) to preserve and enhance the refuge lands and waters in a manner that will conserve the natural diversity of fish, wildlife, plants, and their habitats for present and future generations; (2) to conserve and enhance populations of fish, wildlife, and plants within the refuge, including populations of black ducks and other waterfowl, raptors, passerines, and marsh and water birds; (3) to protect and enhance the water quality of aquatic habitats within the refuge; (4) to fulfill international treaty obligations of the United States with respect to fish and wildlife and their habitats; and (5) to provide opportunities for compatible scientific research, environmental education, and fish and wildlife-oriented recreation. 104 Stat. 2955, dated Nov. 16, 1990.

“the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions....” 16 U.S.C. 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986)

“for the development, advancement, management, conservation, and protection of fish and wildlife resources....” 16 U.S.C. 742f(a)(4) “for the benefit of the United States Fish and Wildlife Service, in performing its activities and services.” 16 U.S.C. 742f(b)(1) (Fish and Wildlife Act of 1956)

“for use as an inviolate sanctuary, or for any other management purpose, for migratory birds.” 16 U.S.C. 715d (Migratory Bird Conservation Act)

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System is “to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.”

Description of Use

(a) What is the use? Is it a priority public use? The use is furbearer management as an economic use. Furbearer management is employed on the refuge as a management tool, yet since the refuge could use state (New York and New Jersey) licensed trappers to carry out this activity, and trappers could keep the furs, this constitutes an economic use. Furbearer management is not a priority public use of the National Wildlife Refuge System under the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd-668ee), as amended by the National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57).

(b) Where will the use be conducted? Furbearer management through trapping is an allowable practice in New York and New Jersey, and will be conducted only in locations where it will accomplish refuge goals and objectives. Refuge law enforcement will ensure that trappers on the refuge comply with refuge regulations and, to the extent possible, with state regulations. Designating trapping zones and limiting the number of trappers in each zone may help prevent conflicts between trappers. In addition, designating trapping zones will allow the refuge to either concentrate or reduce trapping management needs. Designating locations where specific trappers are permitted on the refuge will facilitate the enforcement of refuge and state regulations.

(c) When will the use be conducted? When possible, furbearer management will be conducted in accordance with the New York and New Jersey state seasons, yet as a refuge management tool this use may be conducted outside of state seasons. New York furbearer management seasons run generally from October through February, while New Jersey furbearer management seasons generally run from November through March.

(d) How will the use be conducted? Refuge-owned lands in New York and New Jersey will be open to furbearer management for the following species: beaver, muskrat, fox, coyote, coydog and woodchuck. The refuge will offer a special use permit (50 C.F.R. Sec. 31.16) to trappers selected to conduct this management activity.

Furbearer management on refuge-owned lands will be conducted according to New York and New Jersey state regulations and any applicable refuge regulations, which will be detailed in a special use permit. The refuge will generally only allow furbearer management during state seasons. The refuge manager reserves the authority to regulate the numbers of target species taken in any one location.

We can only authorize this use if we find that it is compatible and it contributes to the refuge purposes or the System mission (50 C.F.R. Sec. 29.1), if we find there is a surplus wildlife population needing control (50 C.F.R. Sections 31.1 and 31.2(f)) and if we issue a permit (50 C.F.R. Sec 31.16). The refuge will determine on an annual basis whether furbearer management is necessary to support its goals and objectives.

(e) Why is this use being proposed? This use is being proposed in part to eliminate or reduce damage to refuge resources caused by overabundant species such as muskrats, beavers, foxes, coyotes, and woodchucks. Muskrats feed primarily on aquatic plants. In marsh environments, their feeding and lodge construction can aid wetland managers in obtaining desired amounts of open water and vegetation. In some portions of their range, however, muskrats can become excessively abundant and actually destroy the aquatic vegetation upon which they and other wildlife are dependent (MDC 2004). Woodchucks can tunnel into and under structures, therefore causing damage to refuge resources and infrastructure. Damage from beaver induced flooding is also a problem on the refuge as well as on some adjacent private lands. Populations of breeding birds can be devastated by foxes or coyotes. A furbearer management program will be used as a tool to maintain habitat and keep the predator-to-prey balance.

Refuge trappers typically have a stake in proper habitat and wildlife conservation and protection of the ecological integrity of the refuge so they can continue trapping. Accordingly, they are valuable assets for the refuge manager in providing on-site reports concerning the fundamental status of habitat, wildlife, and refuge conditions.

As a management tool, trapping also embodies public utilization of a renewable natural resource. Furbearers are considered a renewable natural resource with cultural and economic values (Andelt et al 1999, Boggess et al. 1990

Northeast Furbearer Resources Technical Committee 1996, Payne 1980). Several human dimension studies have documented trapper profiles, cultural aspects of trapping, and the socioeconomic role of trapping in the United States (Andelt et al. 1999, Boggess et al. 1990, Daigle et al. 1998, Gentile 1987). In addition to protecting refuge habitats and species, a regulated trapping program on the refuge could also foster the appreciation of wildlife and nature, wildlife observation, environmental education, a greater understanding of ecological relationships, stewardship of natural resources, and inter-generational passage of the methodologies of renewable resource use. Trapping is an activity in which family members and friends often participate and share joint experiences that broaden appreciation of natural resources and ecological awareness (Daigle et al. 1998).

Availability of Resources

In most years, the need to utilize a trapping program is not expected to be needed. The financial resources necessary to provide and administer this use at its current level are now available, and we expect them to be available in the future. A wildlife biologist will be required to evaluate furbearer activity and potential and current affects on refuge resources. The biologist will also evaluate trapper data and compile trapping reports. An administrative assistant will process SUPs and enter trapping data into a database. A refuge law enforcement officer will be required to check refuge trappers and ensure compliance with state and refuge regulations.

We estimate below the annual costs associated with administering the furbearer management program on the refuge.

Refuge Biologist (GS 11) (recommendations, surveys, data analysis): 1 week/yr = \$2,000

Law Enforcement Officer (GS 9) (trapper compliance): 6 days = \$3,000

Administrative Assistant (GS 5) (office administration, permit issuance): 1 week/yr = \$900

Total = \$5,900

Anticipated Impacts of the Use

The impacts of furbearer management on the purposes of the refuge and mission of the Refuge System can be either direct or indirect, and may have negative, neutral, or positive impacts on refuge resources. Due to the management role of trapping on the refuge, which will involve the taking of limited individuals in specific areas, few impacts to populations are anticipated. In most years, we expect no trapping will be needed on the refuge.

Indirect impacts may include displacing migratory birds during the pair bonding/nesting season or the destruction of nests by trampling. We will attempt to mitigate these impacts by authorizing trapping outside the nesting/breeding season. Direct impacts may include the catch of target and non-target species that are predators on migratory birds or nests. Due to the temporal separation of trapping activities and breeding wildlife using the refuge, indirect impacts on those resources by trappers will be negligible. Trappers using the refuge in early March may disturb individual early nesting waterfowl on occasion, and cause their temporary displacement from specific, limited areas. Those impacts are occasional, temporary, and isolated to small geographic areas.

When considering impacts on refuge purposes, the impacts of the furbearer management program obviously include those on the furbearer populations themselves. Trapping harvests and removes individuals of the species.

Yet state natural resources agencies indicate that, with exceptions, furbearer populations are stable or increasing. The anticipated direct impacts of trapping on wildlife will be a reduction of furbearer population in those areas where surplus furbearers exist. The removal of excess furbearers from those areas will maintain furbearer populations at levels compatible with the habitat and with refuge objectives, minimize furbearer damage to facilities and wildlife habitat, minimize competition with or interaction among wildlife populations and species that conflict with refuge objectives, and minimize threats of disease to wildlife and humans.

Non-target species, such as feral cats, stray dogs, raccoons, or opossum, could be taken through this trapping program. None of these species are federal listed, nor are they a species of concern. We may require trappers to check their traps daily or to use humane traps to mitigate impacts to non-target species. Traps will be set specifically around areas of targeted species activity to reduce the risk of taking species other than targeted species. The experience of the trappers and the selection of the appropriate trap size will also reduce nontarget captures (Northeast Furbearer Resources Technical Committee 1996, Boggess et. al 1990).

A national program operated under the guidance of the Fur Resources Technical Subcommittee of the International Association of Fish and Wildlife Agencies (IAFWA 1998) systematically improves the welfare of animals in trapping through trap testing and the development of “Best Management Practices (BMPs) for Trapping Furbearers in the United States.” The refuge will cooperate with and contribute to the development and implementation of those BMPs by practicing an integrated, comprehensive approach to furbearer management, wherever and whenever possible.

Public Review and Comment

This compatibility determination was made available for public review and comment for 66 days as an appendix to the draft CCP/EA for Wallkill River National Wildlife Refuge.

Determination

☐ Use is not compatible

☒ Use is compatible, with the following stipulations

Stipulations Necessary to Ensure Compatibility

We will provide any necessary guidance to trappers on proper trapping techniques to avoid incidental take as much as possible. Adequate controls exist in the form of state laws to safeguard refuge furbearer populations. To ensure a safe, humane, and sound trapping program, the following special permit conditions will be required:

- Permittees must comply with all conditions outlined on the reverse side of the standard Fish and Wildlife Service Trapping Permit, Exhibit 1 in Chapter 7, Section 15 of the Refuge Manual (U.S. Fish and Wildlife Service 1985).
- Permittees must comply with all applicable state regulations. Trapping units will conform to state borders.
- Permittees must trap only their own units. One helper is allowed. The helper must also be listed on the permit and have all applicable state licenses. The helper may trap the unit without the permittee only if prior approval is granted to the permittee by the refuge manager.
- Fur animals authorized to be taken on the refuge may be taken only with traps permitted under state regulations. Traps shall be set where traps or trapped furbearers are not visible from public highways, overlooks, or other visitor facilities.
- Permittees must visit and inspect each of the traps in their trap line at least once every 24 hours. Traps may not be checked between one hour after sunset and one-half hour before sunrise of the following day.
- Permittees may cut small trees or brush on the refuge for use only as trap stakes. Cutting is prohibited along public roads and trails or near visitor facilities.
- Permittees must release non-target species that are uninjured immediately and report the species and number to the refuge manager or designee within 24 hours. Permittees must turn over to the refuge manager or designee within 24 hours non-target species injured or killed through trapping activities.
- Boats may not be used as a part of trapping activities unless specified as a part of a special use permit.
- Ingress to and egress from assigned trapping units assigned shall be only by routes of travel approved by the refuge manager.
- Permittees shall, no later than 10 days after the last day of the refuge trapping season, submit to the refuge manager a trapping report on which the number of each species of animals taken on the refuge is correctly stated. Refuge staff will provide each permittee a blank report card for this purpose.
- The Fish and Wildlife Service assumes no responsibility in case of theft of equipment or of trapped animals.

Justification

Furbearer management through trapping on the refuge is a useful tool for maintaining the balance between furbearers and habitat. As stated in the Anticipated Impacts section, populations of trapped animals will not be reduced beyond a local scale. High populations of predators can decrease the nesting success of ground-nesting migratory birds, thus compromising one purpose of the refuge. Some furbearer populations can also create problems for refuge structures. Furbearer populations, with local exceptions, are stable or increasing on refuge lands. When implemented with stipulations listed above, the furbearer management program on the refuge will not have any appreciable negative impacts on furbearer populations, and the use will be conducted to support refuge management goals. Furbearer management will support healthy refuge habitats and contribute directly to refuge purposes #1 and #2. The use will indirectly support refuge purpose #3. It will not impact refuge purpose #4 or #5. Any individual loss of animals, which would negatively impact refuge purpose #2 will be more than offset by the benefits of accomplishing refuge purposes #1 and #2.

Project Leader Edna R. Hargis 1/27/09
(Signature) (Date)

Concurrence

Regional Chief Anthony J. Leger 1/29/2009
(Signature) (Date)

Mandatory 10-year re-evaluation date

Jan. 29, 2019
(Date)

Literature Cited

Andelt, W. F. R. L. Phillips, R. H. Schmidt, and R. B. Gill. Trapping furbearers: an overview of the biological and social issues surrounding a public controversy. *Wildlife Society Bulletin* 27(1): 53-64.

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Daigle, J. J., R. M. Muth, R. R. Zwick, and R. J. Glass. 1998. Sociocultural dimensions of trapping: a factor analytical study of trappers in six northeastern states. *Wildlife Society Bulletin* 26:614-625.

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